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July 7, 2010

Philip Guidice, Commissioner
Department of Energy Resources
100 Cambridge Street, 10th Floor
Boston, MA 02114

Re: **Biomass Sustainability and Carbon Policy Study**

Via Email: doer.biomass@state.ma.us

Dear Commissioner Guidice:

On behalf of Mass Audubon, I submit the following comments on the *Biomass Sustainability and Carbon Policy Study* produced by the Manomet Center for Conservation Sciences under contract by the Department of Energy Resources (DOER). Thank you for providing the opportunity to submit comments. Mass Audubon is very concerned about the impacts of a rapidly changing climate on people and wildlife, and supports the commonwealth's goals of rapidly reducing greenhouse gas (GHG) emissions as provided for in the Global Warming Solutions Act.

Mass Audubon applauds the commonwealth's response to concerns regarding carbon accounting[1], ecological impacts, and other issues associated with use of woody biomass as an energy source. We support the review and revision of regulations and policies related to biomass burning, forest harvesting, and associated incentives and programs that DOER and other agencies are initiating, and will submit additional comments through those processes.

The report supports a conclusion that most large-scale uses of woody biomass to produce electricity will result in higher GHG emissions than an equivalent amount of energy from the use of fossil fuels, at least over the near term of a few decades. Since the next 10-20 years are a critical period in meeting goals of the Global Warming Solutions Act and the Regional Greenhouse Gas Initiative, it is vital that the commonwealth establish programs and regulations that will significantly reduce GHG emissions during that timeframe.

[1] Searchinger, T., et al. 2009. Fixing a critical climate accounting error. Science 326: 527 - 528.

The conclusions reached in the Manomet report may also depict a more positive carbon accounting for woody biomass as their analysis may not fully account for all of the actual GHG impacts of intensive biomass utilization under reasonable, alternative scenarios. The study relies on several assumptions – a necessity in analyzing any subject so complex. The report is clear and transparent in regards to its assumptions, and we do not fault the authors in that regard. However, we note that altering these assumptions or including other factors in the analysis would have yielded different results. For example, increased soil decomposition after harvests leading to large carbon emissions from soils is a significant effect that was not included in the analysis. Current ownership patterns are assumed to be an important constraint on the level of forest harvesting for biomass, but these ownership patterns could change if additional biomass plants became operational. Thus, forests might be harvested more extensively or more heavily than predicted by the analysis, e.g. there might be more whole tree harvesting than predicted, or biomass plant owners of these plants might purchase tracts of forested land and cut them much more heavily than assumed under the current pattern of private landownership.

Harvesting a forest stand in Massachusetts will result in an immediate loss of the carbon storage capacity of that stand and a reduction in the rate of sequestration, and this effect will persist for decades. The report compares carbon sequestration "dividends" in forest stands harvested under current typical "Business As Usual" (BAU) scenarios vs. a biomass harvesting scenario. However, the report also acknowledges that recent studies indicate that forest sequestration rates and total carbon storage in forest stands in New England continue to increase well beyond ages where a storage equilibrium was assumed to be reached. Forests in Massachusetts are presently sequestering 9 $MMTCO_2e/yr$, or approximately 10% of the state's annual emissions[2]. In establishing policies for biomass, forestry, and land use, it is important that this existing carbon store and sequestration capacity be maintained and even increased over time.

While the Manomet report notes that many stands are older than 60 years old and from a timber harvesting perspective may be "overmature," Massachusetts' forests are relatively young ecologically, with most stands under 100 years in age. These forests will continue to develop structural characteristics and increase carbon storage for many decades, possibly centuries, into the future if left unmanaged.

Mass Audubon supports a mix of forest management approaches that includes setting aside forest reserves that will develop late successional and old growth forest characteristics over time, and support the full range of native forest plants and animals, while also having some areas managed sustainably for timber and other wood products. Use of wood for heating is a traditional activity that can be efficient and sustainable, particularly when conducted at a scale appropriate to the resource and with the wood utilized locally. Some small scale use of Combined Heat and Power (CHP) facilities to add to the overall energy mix may also be appropriate in Massachusetts, and the Manomet study acknowledges that this is among the most efficient uses of biomass for energy.

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[2] Massachusetts Department of Environmental Protection, Statewide Greenhouse Gas Emissions Level:1990 Baseline and 2020 Business As Usual Projection, 2009.

Mass Audubon also supports a review and updating of the Forest Cutting Practices regulations pursuant to MGL Chapter 132. While we agree with this study that these regulations are generally considered to be protective of wetlands and water resources, there are several areas where the regulations could and should be strengthened. Mass Audubon commented on proposed Ch. 132 regulatory revisions in 2006, supporting improvements to better protect wetlands, vernal pools, and waterways. Those regulations never proceeded to formal public hearings and promulgation. A new regulatory review process should consider the revisions proposed by the State Forestry Committee at that time, while adding further provisions related to biomass to improve protection for ecological and forest carbon retention functions.

In conclusion, Mass Audubon thanks DOER for commissioning this report and looks forward to upcoming opportunities to comment on associated regulatory and policy revisions.

Sincerely,

John J. Clarke

cc: Ian Bowles, Secretary EEA
Richard Sullivan, Commissioner DCR
Laurie Burt, Commissioner DEP
Mary Griffin, DFG